

REMARKS

This application has been carefully reviewed in light of the Office Action dated April 16, 2004. Claims 1 to 55 and 57 are pending in the application. Claims 1 and 54 are the independent claims. Claims 1 and 54 have been amended and Claim 56 has been cancelled herein. Reconsideration and further examination are respectfully requested.

Claims 55 to 57 were rejected under 35 U.S.C. § 112, second paragraph. The Office Action took the position that it is unclear whether these are storage medium, computer system, or method claims because they depend on a method claim. Claim 56 has been cancelled. Reconsideration of the rejection of Claims 55 and 57 is respectfully requested.

All of Claims 1 to 54 are seen to be method claims. Claim 55 is seen to be a computer system claim, as it recites a network computing device comprising a processor for executing process steps stored in a program memory to perform a method according to any of Claims 1 to 54. Claim 57 is seen to be a storage medium claim, as it describes a computer-readable medium which stores computer-executable process steps executable to perform a method according to any of Claims 1 to 54. As such, Claims 55 and 57 are believed to comply with 35 U.S.C. § 112, second paragraph. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

Claims 1 to 3, 5 to 7, 9 to 18, 36 to 44 and 55 to 57 were rejected under 35 U.S.C. § 102(b) over “The Phoenix Framework: A Practical Architecture for Programmable Networks” by Yadav. Claims 4 and 8 were rejected under 35 U.S.C. § 103 over Yadav in view of U.S. Patent No. 5,926,539 (Shtivelman). Claims 19 to 35 and 45 to 54 were rejected under 35 U.S.C. § 103 over Yadav in view of U.S. Patent No. 6,073,184 (Couturier). In response, the claims have been amended to emphasize the heterogeneous nature of the network environment for which the invention enjoys particular utility.

Thus, referring specifically to the claims, independent Claim 1 as amended recites a method for providing a virtual device container to virtually extend the functionality of a network device on a network for supporting a plurality of functional application modules residing in a server on the network. The method comprises receiving a function request sent from one of the functional application modules, the function request corresponding to the network device. The method further comprises selecting one of a plurality of functional component modules in response to the function request, each of the functional component modules corresponding to a respective one of the functional application modules, and the selected functional component module corresponding to the functional application module which sent the function request. The method further comprises executing the selected functional component module according to the function

request, wherein each functional component module communicates with the corresponding functional application module through a first interface and communicates with the network device through a second interface, and wherein the functional application module includes a network monitoring function which is accessible using a plurality of network management protocols via the second interface.

Independent Claim 54 as amended recites a method for providing a virtual device container to virtually extend the functionality of a network device on a network for supporting a plurality of functional application modules residing in a server on the network. The method comprises loading, by a functional component keeper module in the virtual device container, a plurality of functional component modules corresponding to a plurality of registry entries in an operating system registry, each of the functional component modules corresponding to a respective one of the functional application modules. The method further comprises establishing a direct connection between a requesting one of the functional application modules and the virtual device container over a dedicated software bus by using a globally unique identifier which corresponds to the virtual device container and which is obtained from the virtual device container via the dedicated software bus. The method further comprises receiving, over the direct connection, a function request sent from the requesting functional application module, the function request corresponding to

the network device and containing a function call. The method further comprises selecting one of a plurality of functional component modules for supporting the function call, the selected functional component module corresponding to the requesting functional application module. Finally, the method comprises executing the selected functional component module according to the function call, wherein each functional component module communicates with the network device through the network and wherein the functional application module includes a network monitoring function which is accessible using a plurality of network management protocols.

The prior art is not seen to disclose the preceding features of the claimed invention as a whole. In particular no combination of Yadav, Shtivelman and Couturier is seen to teach or suggest at least the feature of a functional application module that includes a network monitoring function which is accessible using a plurality of network management protocols. As such, the applied art is not able to enjoy the benefits of the present invention, and in particular, is not able to provide the advantages of the invention in a heterogeneous network environment.

Accordingly, Claims 1 and 54 as amended are believed to be in condition for allowance. The remaining pending claims are each dependent from independent Claims 1 and 54 and are therefore believed patentable for at least the same reasons. Because each

dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

Based on the foregoing remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael K. O'Neill", is written over a horizontal line.

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